DOCUMENT RESUME

ED 245 388 EA 016 938

TITLE Nutrition Education. Michigan School Food Service Training Manual.
INSTITUTION Michigan State Dept. of Education, Lansing.
PUB DATE 84
NOTE 107p.; This material was prepared by Food Science and Human Nutrition, and the Cooperative Extension Service, Michigan State University, as a result of a grant award from the Michigan Department of Education's Nutrition Education and Training Program under the provisions of Section 19, Public Law 95-166 administered by the United States Department of Agriculture. For related documents, see EA 016 935-942.
PUB TYPE Guides - General (050)

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Audiovisual Aids; Class Activities; Eating Habits; Elementary Secondary Education; Food Service; *Foods Instruction; *Lesson Plans; Lunch Programs; *Nutrition Instruction; Physical Health; *Training Methods
IDENTIFIERS Michigan

ABSTRACT

Inservice training should motivate school food workers to participate in children's nutrition education. The training lesson includes a series of service manager/director guidelines, information sheets, and an audiovisual aids list. Food staff nutrition lessons for classroom presentation to grades 4 to 6 cover the daily food guide, snacks, advertisements, vitamins and minerals, and cultural foods, and contain statements of purpose, instructor preparation, and audiovisual aids and activities for each lesson. Suggestions for presentation by teachers to grades 7 to 12 range from information about posters to salad bar programs. The manual concludes with a glossary of often-misunderstood terms. (KS)

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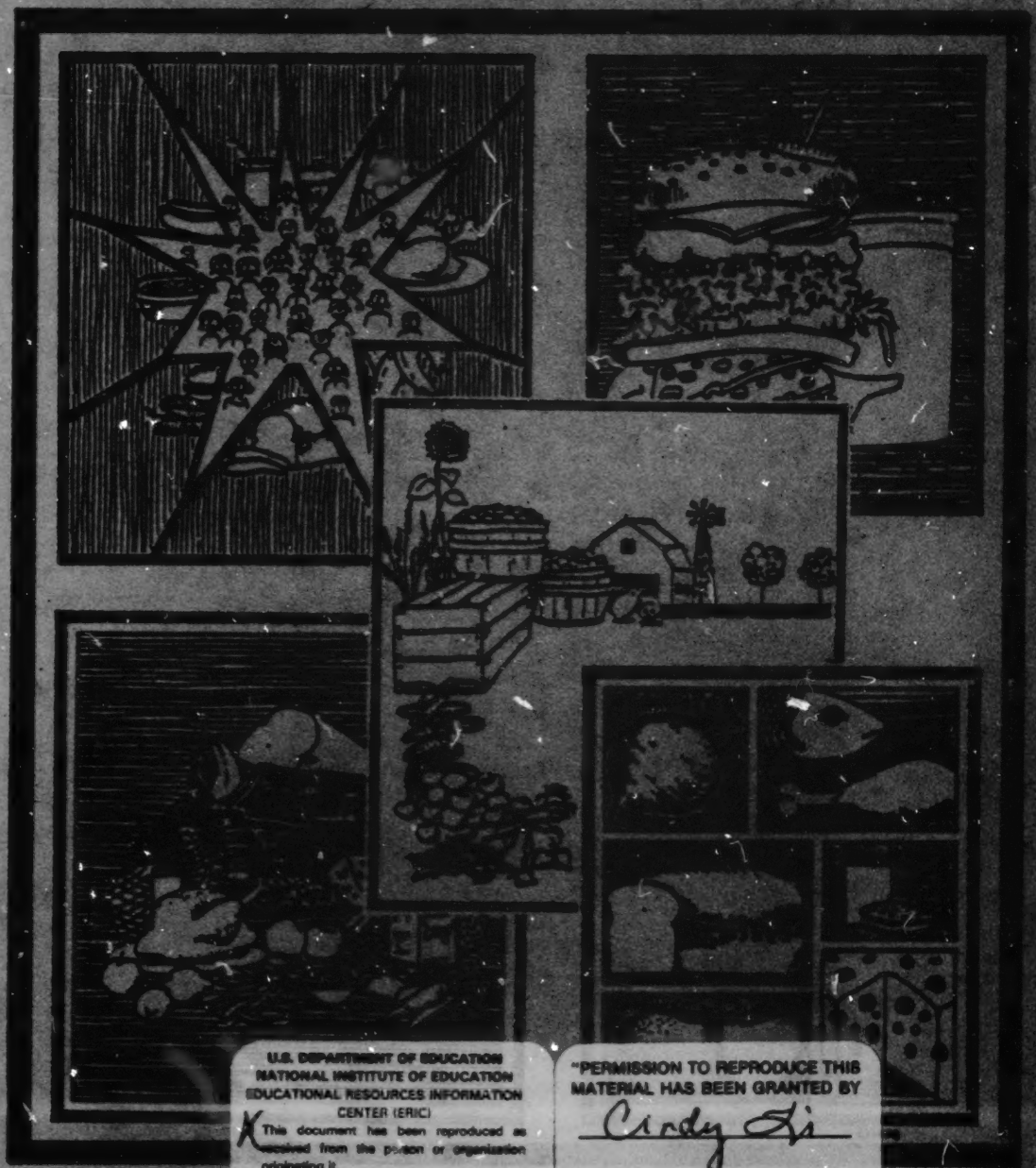
NUTRITION EDUCATION

Michigan School Food Service Training Manual



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If any of these materials are duplicated, the above reference should be included.

Special Acknowledgements are given to the team of food service consultants and nutrition educators who cooperated in the development of these manuals.

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Child Nutrition Programs are available to all eligible children regardless of race, color, or national origin.

TABLE OF CONTENTS

FORWARD, NUTRITION EDUCATION FOR CHILD NUTRITION PROGRAMS 1

Section

Lesson 1: Inservice Training at the Beginning of the Year for School Foodservice Workers by Managers/Directors. 3

Goal of this lesson. 3

Purpose of this lesson 3

Instructor preparation for class activities. 4

Audiovisual aids 5

Activities 5

Brainstorm. 5

Teach Nutrition 5

Share Experiences 5

Share Lesson Plans. 6

Discuss Significance of Food. 6

Discuss Eating Environments 6

Discuss Need for School Nutrition Program 6

Complete a Case Study 7

Discuss Food Habits 7

Keep Records 7

Audiovisual Aids 8

Instructor Information Sheet A: Emotional Significance of Food. 11

Instructor Information Sheet B: Ways to Make the Average School Lunchroom a More Pleasant Place. 13

Instructor Information Sheet C: Case Studies. 19

Order Procedures for Audiovisuals From FNIERC. 22

Sample Record of Nutrition Education Activity by School Foodservice Staff 23

Introduction to Nutrition Education Lessons for the Classroom 25

Level I. 27

Nutrition in Bite Size Pieces 27

Other References. 27

Audiovisual Aids 28
Games, Stories, Teaching Activities 31

Lesson 2: The Daily Food Guide--For Students Grades 4-6. 34
Purpose of this lesson 34
Instructor preparation for lesson. 34
Audiovisual aids 34
Resource materials 34
The Daily Food Guide. 36
Conduct a Game. 38
Show a Film 39
Make a Mobile 44

Handout #2-1 Dietary Recall 45
Handout #2-2 What's Missing 47
Handout #2-3 Chutes and Ladders 48
Handout #2-4 Menu Mobile. 49

Lesson 3: Snacks--For Students Grades 4-6. 51
Purpose of this lesson 51
Instructor preparation for lesson. 51
Resource materials 51
Audiovisual aids 51
Activities 52
Analyze Nutrients 52
Taste Nutritious Snacks 53
Plan Snacks 53
Show a Film 54

Handout #3-1 Snacking--Matter of Management 57

Lesson 4: Advertisements--For Students Grades 4-6. 59
Purpose of this lesson 59

Instructor preparation for lesson. 59
Audiovisual aids 59
Activities 60
Discuss Advertising 60
Discuss Food Ads. 61
Make Ads for School Meals 61
Discuss Purchases 62
Role Play 62
Make a Display. 62
Discuss Advantages. 62
Show a Film 62

Handout #4-1 Appeal From Food Ads 65

Lesson 5: Vitamins and Minerals--For Students Grades 4-6 67
Purpose of this lesson 67
Instructor preparation for lesson. 67
Resource materials 67
Audiovisual aids 68
Activities 69
Tell a Story. 69
Show a Film 69

Lesson 6: Cultural Foods--For Students Grades 4-6. 71
Purpose of this lesson 71
Instructor preparation for lesson. 71
Resource materials 71
Audiovisual aids 71
Activities 74
Discuss Foods People Eat. 74
Discuss Agriculture 77
Discuss Meals 77
Discuss Cooking Equipment 77
Discuss Convenience Foods 78

Create Family Food Trees 78
Taste 78

Level III Grades 7-9, 10-12. 80
Posters. 80
Special Meals. 81
Salad Bars 82

Glossary of Often Misunderstood Terms 90

References. 98

Other Manuals 99

FOREWARD

NUTRITION EDUCATION FOR CHILD NUTRITION PROGRAMS

The format of this manual is different from the rest of the manuals in this series. This manual contains lessons for presentation to food service staff and lessons for presentation to the students.

The first lesson is an in-service training for school food service workers which should be presented by the food service manager/director of the school system. A variety of topics are given so the inservice can happen annually for several years. The goal of this first lesson is to motivate school food service staff to participate in the nutrition education effort for school children. The nutrition education lessons for presentation to children are suggestions for classroom presentations by the school food service staff. The lessons are introduced and explained on page 25.

Suggestions for nutrition education for presentation by teachers are also given. Food service workers can assist teachers who would like to give their students some in-depth nutrition education experiences.

At the end of the manual is a Glossary of Often Misunderstood Terms.

We hope that this manual will be helpful to school food service staff to increase the nutrition knowledge of the students in their school system, and ultimately help students to choose foods that can help them to grow optimally and be healthy.

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Lesson 1: IN-SERVICE TRAINING AT THE BEGINNING OF THE YEAR FOR SCHOOL FOODSERVICE WORKERS BY MANAGERS/DIRECTORS.

A. Goal of this lesson

The goal of this lesson is to motivate School Foodservice Workers to participate in the nutrition education effort for school children.

B. Purpose of this lesson

After completing this lesson, participants will be able to choose some of the following means to provide nutrition education to school children:

1. informally converse with students over the service counter to help children make an association between food and health. Saying things like:
   - "eat your vegetables, they will make you feel good"
   - "drink your milk, calcium is in milk and it's good for your bones and teeth"
2. visually provide information. Do things like:
   - placing posters in lunchroom
   - providing written information on the lunch such as calorie counts
   - posting the next day's menus

3. teaching acceptance of new foods. By:
   - providing new foods to taste
   - planning ethnic food days and serving ethnic foods
4. assisting teachers with lessons in classroom (examples are given in this manual). By:
   - discussing vegetables to increase acceptance of this food
   - describing all the different foods in the daily food guide to help children to make nutrition decisions

C. Instructor preparation for class activities

1. select one or more of the ideas for activities given on pages
2. duplicate sufficient copies of necessary handouts
3. select one of the audiovisual aides (film or slides) and order it in plenty of time
4. reserve a room with a blackboard or overhead projector if necessary for your lesson
5. preview film or slides to prepare questions, especially where no study guide is available

D. Audiovisual aids. See list on page 8.

E. Activities: (Choose one or more)

1. BRAINSTORM

   a) Brainstorm with food service workers (divide into groups of 5-10 where necessary) for nutrition education ideas food service staff can create:
      - in the lunchroom
      - on the trayline
      - in the schoolroom

   b) List ideas on blackboard

   c) Choose by vote or consensus some ideas to implement

2. TEACH NUTRITION. Use the session to teach lesson 1 from Nutrition Manual, the information is the basis for nutrition education.

3. SHARE EXPERIENCES. Have workers share their previous nutrition activities.

   a. relate positive and negative experiences

b. analyze reasons for success or failure of these nutrition education efforts

4. SHARE LESSON PLANS. Share the lesson plans and ideas in this manual with workers so they can use the manual.

5. DISCUSS SIGNIFICANCE OF FOOD

   a. Discuss the emotional significance of food

   b. Use Instructor's Information Sheet A at the end of this lesson, page 11

6. DISCUSS EATING ENVIRONMENTS

   a. Discuss how to make the lunchroom more pleasant

   b. Use Instructor Information Sheet B, page 13

7. DISCUSS THE NEED FOR THE SCHOOL NUTRITION PROGRAM

   a. Discuss the position paper on Child Nutrition Programs by the American Dietetic Association

   b. Obtain a copy from the Journal of the American Dietetic Association, May, 1974

8. COMPLETE A CASE STUDY

   a. Use any appropriate case study on the Instructor Information Sheet C, page 19

   b. Use it for discussion and planning

9. DISCUSS FOOD HABITS

   Discuss how children establish food habits using the following slide set on loan from FNIERC.* Accession No. 2677-73, How children learn about food (slides), N.Y. State College of Hum. Ecology, Ithaca, NY, 21 color slides w. guide booklet, A tool to encourage discussion on how children establish their food habits, attitudes, meaning of food in our culture and for our emotional needs.

F. Keep records of your activities, see forms on pages 23 and 24.

AUDIOVISUAL AIDS

LIST OF FILMS WITH DESCRIPTION

1. "Quality Food, Quality Choice, and Nutrition Education by the Food Service Worker". (20 min.), 1980 on loan from: Michigan REMC's, also from the State Library of Michigan. A study guide is available.

   This videotape is designed to:
   Help CREATE SELF-ESTEEM among the food service workers by: showing that others in the school recognize their job as important; gives suggestions for METHODS OF NUTRITION EDUCATION by food service workers in possible settings such as cafeteria, classroom, kitchen; possible strategies such as over-the-counter conversation, visuals; possible topics such as food groups, relationship of food to health.

2. What's Nutrition? (16mm) 30 min., U.S. Food and Nutrition Service 1974, (also video with study guide) Motion Picture 5-103 on loan from MDE* State Library Services, Accession No. 734-74, (movie), 744-74, (video cassette); FNIERC*, Food and Nutrition Information and Resources Center.

   Presents a brief history of nutrition, emphasizing the importance of forming food habits for a lifetime. Stresses attitudes toward food,

nutrition and eating, and how they affect the job of the school foodservice worker.

3. Classroom and Cafeteria (16mm) 30 min., U.S. Food and Nutrition Service, 1974. On loan from: MDE State Library Services, Motion Picture, 5-109, Accession No. Movie - 751-74, Videocassette - 741-74, FNIERC.

   Shows that some school systems have found ways to bring the classroom and cafeteria closer together. Examples of the kinds of nutrition information one can teach to children at various ages and eductional levels.

4. Why you eat? (60 frames, cassette) 7 min., McGraw-Hill, 1973, on loan from: MDE*, Filmstrip, TX 355, .N872.

   Discusses some of the reasons people eat. Includes habit, sensory stimulation, emotional make-up, ethnic, cultural and religious backgrounds, and the use of food as a symbol.

5. Innovations and challenges (16mm) 30 min., U.S. Food and Nutrition Service (also video with study guide), On loan from: FNIERC, Movie 330-75, Videocassette 743-74.

   The role of school foodservice personnel in nutrition education is described. Foodservice can educate and must since food habits developed during childhood last a lifetime. If these are

good food habits, a contribution has been made to health. A review of the nine previous lectures is given. Some attention is given to current theories in nutrition, for example, that poor nutrition can result in poor social and learning behavior. Evidence for the validity of this premise is inconclusive. Other factors may be the cause or act in conjunction with nutrition programs. New types of food, engineered foods, and the tests they are subjected to are discussed. They will require new standards. New methods of preparation and serving, and new equipment are described.

INSTRUCTOR INFORMATION SHEET A

EMOTIONAL SIGNIFICANCE OF FOOD

1. If one child at a table at school lunch says: "Ugh! That's awful!", do other children try that food? Why?
2. If you served bright blue milk at school just to be different, would the children drink it?
3. Why will some families at a community or large family gathering eat only the food they have brought--perhaps even asking the parent to point out which is their chicken or which is their potato salad?
4. Why do parents send "care" packages of food to children away at college? Is it important that the cookies in a "care" package be homemade?
5. What is the image of soft drinks? Are you more likely to have a soft drink when you are alone or when you are with someone?
6. Why are foods as beaver steaks, roasted raccoon, or pheasant considered prestige foods by some?
7. At a dinner for a distinguished guest, would you serve meatloaf, steak, or a TV dinner? Why?
8. If a distinguished guest is an afternoon caller in your home would you serve food? Why?

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Would you do the same for a caller who was a family friend of long standing and lived nearby?

9. If you were trying to get a small child to do as you wished, what food might you offer him or her? Why these particular foods?
10. Are you willing to eat foods that are leftover? Why? Why may some persons do otherwise?
11. When would you prepare less food than you think would be eaten?
12. What can be accomplished by refusing to eat?
13. What foods do you consider to be masculine? Feminine? What foods are suitable for the elderly, for children, for the poor, for the wealthy?
14. Do you think that limited food likes are a function of a lack of security?
15. What makes cake a necessity at a birthday party?
16. Do you expect the first taste of a new food to be unpleasant?
17. What is a "peaches and cream" complexion? Think of other terms that use food descriptions of totally unrelated concepts. Why are they used?
18. Should the father of the family be given the choice serving of food? Why?
19. Do you find chewing gum to be almost as satisfying as a between meal snack? Why?

Adapted from: Preliminary Manual for Nutrition Education for Child Nutrition Programs

INSTRUCTOR INFORMATION SHEET B

WAYS TO MAKE THE AVERAGE SCHOOL LUNCHROOM A MORE PLEASANT PLACE

I. DINING ROOM INTERIOR DECORATION AND CONGENIAL ATMOSPHERE

Use "mod" interiors, bright colors
Paint dining room pleasant colors
Carpet floors, have drapes
Use indirect light (proper light)
Have good acoustics
Have plants, pictures
Plan holiday decorations
Insist on proper temperature and ventilation
Have clean windows in dining room
Insure adequate physical facilities
Use school colors
Allow talking
Have a free Juke box
Arrange centerpieces on tables
Place murals on the walls
Let classes decorate
Decorate tables and walls
Clean tables and floors
Choose random arrangement and different sizes and shapes of tables
Use chairs, not benches
Buy colored chairs and tables
Provide small tables and chairs for small children

Relocate chairs and tables
Use tablecloths and napkins
Choose tables which seat four to six
Have cushions in seats
Divide dining rooms into smaller areas
Call cafeteria "Student Center", or by name of school mascot
Enlarge dining room to prevent crowding
Use cafeteria as a multi-purpose room, study and snack area
Try for a restaurant atmosphere
Install booths
Use placemats
Have a cloakroom
Provide shelves for books
Allow students to decorate cafeteria to their tastes
Scrape and wash dishes away from dining room
Pre-set tables
Provide clean, attractive counters
Provide youth-oriented atmosphere
Air-condition the dining room
Let students establish ground rules in the dining room
Work through the student council
Have several eating areas in the building
Provide private dining rooms where organizations can meet as they eat
Suggest television, rock music, music group performances
Plan a place to dance
Use training tables for athletes
Get rid of odors

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II. PERSONNEL

Arrange for proper supervision to avoid unpleasant disciplinary problems

Do not have policing; try for less regimentation

Suggest that cooks wear costumes on holidays

Visit with students in dining area

Know names of students

Have workable administration policies

Make name tags for cooks

Have an unknown panel evaluate you at unscheduled times

Identify food

Speed service lines; eliminate waiting

Have supervisor on the floor to visit with the students

Serve with a smile

Insist on well-groomed, pleasant workers

Purchase attractive colored uniforms for servers

Train cashiers to work quickly

Work on closer student-teacher relationships on elementary level

Suggest different uniforms

Suggest colored uniforms

Try novelty uniforms

III. SPECIAL ACTIVITIES

Sponsor audio-visual nutrition program at lunch
Have short entertainment programs
Use fresh flowers
Plan a dress-up day with special music
Ask students to choose colors
Name the dining room
Ask an art class for decorations
Have host and hostess
Have local chef cook a meal
Plan an outdoor dining room; serve sack lunches on special occasions
Use volunteer help; invite senior citizens to visit and help
Initiate a dairy bar
Put up bulletin boards
Encourage student council involvement
Involve P.T.A.
Serve outdoor barbecue
Show movies
Encourage art displays
Put up rosters for special events
Invite new participants in program to eat
Offer choices among foods and/or menus
Sell membership to cafeteria
Have a contest: every 50th person eats free

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Serve soul food
Have a Mexican Day, Chinese Day, etc.
Post menus
Invite parents to eat
Observe special occasions
Have a "lucky tray"
Offer alternate types of service
Introduce gimmicks with free lunch as reward
Serve monthly banquets

IV. EQUIPMENT

Use attractive china
Have glasses for water
Have knives available
Alternate service: paper, plastic, china
Get dirty dish return out of dining room
Use garbage can liners
Scrape and wash dishes away from dining room
Use scramble system
Use plates instead of trays
Have drive-in window
Use trays with school colors and emblems

V. POLICIES

Suggest a longer lunch hour
Suggest more lunch periods

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Be open for service all day
Keep prices low
Insist on attractive service
Provide music
Have a colorful decor
Employ pleasant service people

Adapted from: Preliminary Manual for Nutrition Education for Child Nutrition Programs.

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INSTRUCTOR INFORMATION SHEET C

CASE STUDIES

INTEGRATION AND SCHOOL FOODSERVICE

A. A school system is scheduled for increased integration when school opens next fall. Token integration was instituted several years ago with no incidents, but this coming year children will be coming from a different geographical area of town with very different socio-economic and cultural backgrounds than the majority of the students currently in the school. What should the school foodservice program do this spring to encourage peaceful integration? What should be done in preparation for the fall? What problems can be anticipated, and how should they be handled? What activities could be planned by school foodservice personnel to encourage true integration?

EXCHANGE STUDENTS AND FOODSERVICE

B. For the first time this year, a small secondary school in a small midwestern community is hosting three international exchange students for the school year. What can the school foodservice personnel do to make the students' visit enjoyable? One of the host families comes to you to ask for suggestions to make their student welcome and at home. Explain to

them about foodway development and food habit development as well as cultural and emotional reactions to food and what can be expected from the student in new surroundings.

NONPARTICIPATION AND PRIDE

C. A new child transferred into the fifth grade. The child was always nicely dressed and had a new lunch pail. He would not participate in the foodservice program at the school and sat by himself to eat in the classroom instead of eating in the lunchroom. Six weeks went by before the classroom teacher mentioned this behavior to you. What would you suggest? (Discuss this section before proceeding.) Investigation revealed the child's lunch box contained only a block of wood and wadded up newspapers. The family had lost everything where they lived previously, and was here to make a new start. They were proudly independent however, and, according to the child, did not want anyone in the new town to realize they had financial problems. What should be done?

RAISING MONEY

D. The student council in your school approaches the principal with a suggestion for raising money to buy new band uniforms and to pay for a proposed trip to a distant city to participate

in a big parade. Their proposal is the establishment of a candy, pop, and homemade cookie concession. You hear about the proposal. Plan your strategy to present to the principal. (If the class does not come up with it, be sure to suggest that this is the perfect opportunity for beginning a total school nutrition education program. The concession stand can be opened, but not during meal hours; only nutritious snacks are to be served; low-calorie foods as well as those rich in vitamin A, vitamin C, and iron can be featured. Go on from there.)

THE COACH

E. The new physical education teacher and wrestling coach in your school is a food faddist. He puts the boys on stringent reducing diets and has weird diet ideas. What would you do?

F. Use examples from you own school system.

Adapted from:

Preliminary Manual for Nutrition Education for Child Nutrition Programs.

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ORDER PROCEDURE FOR AUDIOVISUALS FROM FNIERC

When ordering materials please order as follows:

Accession No.	Title	Format
10-32-76	Cold Food Handling	Motion Picture
337-77	The Snacking Mouse	Filmstrip
2356-78	Allergic Reaction to Food	Audiocassette

Loans: The FNIERC lends nonprint media (motion pictures, transparencies, etc.) for 2 weeks only. No more than 3 audiovisuals can be loaned at any one time to one person. Films will be scheduled more than 1 month in advance. FNIERC does not loan audiovisual equipment.

The Center accepts requests for materials by mail, telephone and on site visit. Please address all telephone or written requests to:

The Food and Nutrition Information and Education Resources Center
National Agricultural Library Bldg., Room 304
Beltsville, Maryland 20705

Telephone: Area Code 301-344-3719 (between 8 a.m. and 4:30 p.m. EST)

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30

Sample Record of Nutrition Education Activity by School Foodservice Staff

Classroom activity: Date: _____

Schoolhaus _____ Grade _____ Teacher _____

Foodservice Staff _____ (title) _____

Program title _____

Games used _____

Audio/visual material used _____

Evaluation _____

31

MSU-NET
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31

Lunchroom activity:

Date: _____

Special luncheon _____

Media used _____

Objective:

Evaluation:

MSU-NET
FSHN/81

32

INTRODUCTION TO NUTRITION EDUCATION LESSONS FOR THE CLASSROOM

This Nutrition Education Manual for foodservice personnel uses for each education level the same performance objectives as the Teacher Reference Guide for Nutrition Education "Food What's in it for you?" Level I - grades 1-3; Level II - grades 4-6; and Level III - grades 7-9. It is up to the foodservice manager/director to inquire from the school administration whether the teachers in their school system are teaching nutrition education based on that guide. If yes, your activities in the lunchroom and classroom should be coordinated with the teachers and support their program. If not, try to get your school system to adopt the nutrition education program. In the meantime, use this manual to provide the children with as much nutrition education as possible, informally in the lunchroom and formally in the classroom.

Activities for Kindergarten (K) through 4th grade are not included in this manual. We refer you to the special guide produced in Michigan called NUTRITION IN BITE SIZE PIECES. Activities for other grades are included in this manual.

Foodservice personnel are advised to keep a good record of their nutrition education activities, including an evaluation of each program, for future

reference. We have included a sample record of nutrition education activity by school foodservice staff.

Several activities, games and audio-visual materials are offered for each level. This should help foodservice personnel use this guide for many years.

LEVEL I

Refer to Nutrition In Bite Size Pieces available in the REMC and from Food Science and Human Nutrition at Michigan State University.

OTHER REFERENCES:

1. Creative Food Experiences for Children by

   Mary T. Goodwin and Gerry Pollen
   Center for Science in the Public Interest
   1755 S. St., NW
   Washington, DC 20009

   256 pp., $5.95

   This book has many ideas and is a very important resource for teaching nutrition education. Recommended for school foodservice personnel and teachers.

2. Food and Nutrition K-6. Lesson Plans For Lay Teachers by Ingham Nutrition Education and Training Project and Ingham County Cooperative Extension Service, Mason, Michigan 48854

   This is a set of 5 lessons for each grade to be taught by volunteers interested in nutrition. Some training and screening of volunteers is necessary. Includes very good ideas that will help children learn about nutrition.

3. Nutrition Source Book
   National Dairy Council
   Rosemont, IL 60018

   This book is a very good nutrition reference for educators.

AUDIO-VISUAL AIDS:

1. "You Are What You Eat!"
   Bar Films, n.d.
   (16 mm. movie, 10 min.)

2. "Doing Great Things"
   Kraft Foods Educ. Dept. (16 mm. movie, 14 min.)
   On loan from FNIERC Accession No. 154-73
   This motion picture was made to promote basic nutrition awareness among youngsters. The film shows athletes and astronauts in training and work, emphasizing the importance of a balanced diet for good mental and physical performance.

3. Nutrition For Little Children (filmstrip/cassette record) Edson, Ann, Freeport, NY (1973)
   On loan from FNIERC. Accession No. Filmstrip/Cassette Tape 351-74; Filmstrip/Record 352-74.
   This filmstrip for children of about 5-8 years shows a variety of nutritious foods and their sources, and the importance of good food for health, growth and energy. Does not differentiate nutrients, or their role in the body, only distinguishes nutritious foods from less nutritious ones.

4. Nutrition for Children in the Primary Grades, 1976. From The Polished Apple, 3742 Seahorn Dr., Malibu, CA 90265; a set of 3 color filmstrips with cassettes (manual and automatic signals); Break The Fast, 45 frames, 7 min; The Nutrient Express, 52 frames, 11 min.; George Gorge and Nicky Persnicky, 60 frames, 12 min.; teacher's guide, 1 p.; $69.75 for the complete set (Calif. residents add 6% sales tax).

Cartoon characters teach the importance of starting the day with breakfast, featuring traditional and nontraditional foods, in "Break The Fast". The clearly stated message and brilliant colors should appeal to preschoolers as well as primary school children.

Children are introduced to the Four Food Groups in "Nutrition Express" as cartoon characters travel aboard a colorful steam engine through a fantasy "Land of Nutrients". The Four Food Group characters sing simple ballads telling of their dietary benefits. The outstanding use of color, music, and images geared to interest children introduces youngsters to nutrition in a delightful, entertaining way.

The story of George Gorge and Nicky Persnicky tells of two children with very bad eating habits: too much and too little, respectively.

A visitor from outer space, Dr. Balanced Diet (delightfully concocted from a variety of mouth-watering foods), shows George and Nicky how eating foods from the Four Food Groups can help them to be healthier and happier. Recommended for grades 1-4.

5. Nutrition, 1974. From Clearvue, 6666 Oliphant Ave., Chicago, IL 60631. Set of four color filmstrips with cassette or 33-1/3 rpm record (manual or automatic signals): Meat Foods, 62 frames, 9 min.; Milk Foods, 63 frames, 9 min.; Vegetable-Fruit Foods, 63 frames, 9 min.; Cereal and Bread Foods, 55 frames, 9 min.; teacher's guide and script, 31 pp., $52.00 per set; $15.95 per title.

   Designed to familiarize primary grade level students with the Four Food Groups, this filmstrip series uses a "Nutrition Trio" with magical powers to teach youngsters the importance of each food group to a balanced diet. In each filmstrip, the Trio focus on the health functions of each food group. Some oversimplification leads to inaccuracy, such as the statement that "protein from meats contain iron and vitamin B-12". Educators may also wonder about the wisdom of allowing the Trio to "follow food through the bodies of the people they secretly help", including exiting

through pores in the skin and the pupils of the eye. The filmstrips do present basic information on nutrients and food groups for a primary audience.

6. Clarabelle the Cow (filmstrip) On loan from FNIERC, Accession No. 31-76
   A filmstrip and coloring book are used to demonstrate the benefits of milk. Through the adventures of "Clarabelle the Cow" and her "fairy cow mudder" elementary children ascertain where milk comes from, the differences between whole and skim milk, and products such as cheese and ice cream which are derived from milk. Emphasis is also given to the importance of milk for body growth and strong bones and teeth.

GAMES, STORIES, TEACHING ACTIVITIES:

1. The Thing the Professor Forgot (booklet) Office of Communication, Consumer Information, Pueblo, CO 81009
   Exciting story for children and coloring book, stresses importance of eating a variety of foods.
2. F.O.O.D. for Thought (1974) American School Foodservice Association, 4101 East Iliff, Denver CO 80222, $5.00, 86 pp.
   Activities for 32 concepts, large portion of concepts on basic four, meal planning, preparing and eating a variety of foods.

3. Fun With Good Food. USDA Food and Nutrition Service, $1.90; 48 pp.
   The activities in this booklet present basic facts about food and nutrition in a creative manner that attracts the child's attention to the subject.
4. Nutrition Action Pack, McDonald Action Packs Box 2594, Chicago, IL 60690, $1.00
   Offers activities and games to stimulate children to think about food needs and choices.
5. Adventures in Foods, Michigan Dairy Council, 704 New Center Bldg., Detroit, MI 48202, Free
   Perfect resource on a variety of Michigan foods for use in school lunchroom and classrooms.
6. Food Models
   Michigan Dairy Council, 704 New Center Bldg., Detroit, MI 48202.
   Very attractive life-size color photographic reproductions of foods commonly eaten. A guide for ways to use models is included.
7. Soup's On. National Health Systems, P.O. Box 1501, Ann Arbor, MI 48106
   The goal of the game is to complete a balanced meal. The approach is similar to Bingo with nutrition categories (protein, vegetables, fat, fruit, milk, starch) and individual foods below. A horizontal row of six foods must be covered to obtain a balanced meal.

8. Yummy Rummy Game. American School Food Service Association, 4101 E. Iliff, Denver, CO 80222. 62 playing cards. The object is to make a complete meal.

9. Alphabet Soup. Selpt & Street Enterprises, 2502 Winton Road, Durham, NC 27707, $5.50, 183 pp.
   Ideas for use in classroom and lunchroom. Nutritional facts, teaching ideas, poems, recipes and riddles, etc., given.

10. 1) Kim Helps Care For Food
    2) Food Helps Kim Grow
    3) Kim Likes To Eat, Yakima Home Economics Assoc., Yakima, WA 98902, 50¢ each.
    1) Explains how to take care of food.
    2) Story for K-2 helps children understand how Kim grows
    3) Tells why Kim eats certain foods

11. Pencil and Paper Fun to Teach Nutrition
    by Ruslink, D. and D. Funk, 1978, Good Ideas Books Co., P.O. Box 116, Gillette, NJ 07933
    23 spirit masters $4.95 single copy
    $4.49 each for two or more copies

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Lesson 2: THE DAILY FOOD GUIDE--FOR STUDENTS GRADES 4-6

A. Purpose of this lesson

1. Students will be able to analyze their daily food intake using "The Hassle-Free Daily Food Guide" or the "Guide to Good Eating."
2. Students will know that they need a great variety of foods from the first four food groups to provide all the necessary nutrients daily.
3. The students will understand that the fats, sweets and alcohol group provides calories from fat, sugar or starch and alcohol and very few other nutrients.

B. Instructor preparation for lesson

1. Order enough food guides to provide each student with one copy.
2. Decide on any other handouts you wish to use and make sufficient copies.
3. Order games you plan to use.
4. Order a movie or filmstrip from the selection below.

C. Audiovisual aids. See list of films on page 39 and list of games on page 38.

D. Resource Materials

1. Nutrition and Your Health, Bulletin No. 232, published by U.S. Dept. of Agriculture and the U.S. Dept. of Health, Education and Welfare are helpful. The guidelines are:
   1) Eat a variety of foods
   2) Maintain ideal weight
   3) Avoid too much fat: saturated fat and cholesterol
   4) Eat food with adequate starch and fiber
   5) Avoid too much sugar
   6) Avoid too much salt
   7) If you drink alcohol, do so in moderation
2. Hassle-Free Guide to a Better Diet, U.S. Dept. of Agriculture, leaflet No. 567. Free. U.S. Govt. Printing Office, Washington, D.C.
3. Guide to Good Eating, National Dairy Council, Rosemont, IL 60018 or your local Dairy Council Office. Free.

THE DAILY FOOD GUIDE

ACTIVITIES

1. EXPLORE DIET

   a) Have students complete a 24-hour food recall for the day before. Be sure they include foods eaten between meals, as well as all foods eaten at meals. Use Handout #2-1 for the recall. Decide if you want to use other handouts also (Handout #2-2).

   b) Distribute "The Hassle-Free Daily Food Guide" or "The Guide to Good Eating" to help students analyze their own food intake. How many servings from each food group did they eat? How many servings from fats, sweets, and alcohol group?

   c) Ask the students to report their intake by food groups. On the blackboard, make an analysis of the class' food intake. (See p. 37)

   d) Ask the children their reasons for having fewer servings of the first 4 groups or more of the fats, sweets group. Are those the same children?

   e) Explain that the Daily Food Guide should help students select a diet containing all known nutrients essential for good health and optimal growth.

CHART FOR REPORTING INTAKES ON BLACKBOARD

	FOOD GROUP	SERVINGS	NO. OF STUDENTS	SERVINGS	NO. OF STUDENTS
1.	fruits & vegetables	4 or more servings	_____	2 or less servings	_____
2.	bread and cereal	4 or more servings	_____	2 or less servings	_____
3.	milk and cheese	4 or more servings	_____	2 or less servings	_____
4.	meat, poultry fish, beans	2 or more servings	_____	1 or less servings	_____
5.	fats, sweets and alcohol	1-3 servings	_____	4 or more servings	_____

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f) Stress the importance of choosing a variety of foods from each food group, as no one food contains all nutrients (except mother's milk for the first few months of a baby's life).

g) Explain that the minimal level of the Daily Food Guide does not furnish enough calories for energy needs for 4th-6th graders. Where should the additional servings come from?

h) Encourage students to freely choose more from the:

fruit and vegetable group
bread and cereal group
milk and cheese group

and moderately move from the: meat, poultry, fish, bean group as well as from the "others" group.

2. CONDUCT A GAME

a) Mulligan Stew: Puzzle Pak, 4H - ENP, Coop. Extension Service, University of Hawaii, Honolulu, Hawaii 96822.

This is a good game and has activity ideas. It includes a few foods less common outside Hawaii.

b) Vitamins & Vittles. Order from: Phyllis Johncock, Extension Home Economist, County Road Commission Bldg., Corunna, MI 48817.

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FSHN/81

c) Use Handout #2-3 and play nutrition chutes and ladders.

d) Pencil and Paper Fun to Teach Nutrition. Good Ideas Books Co., 20 Highmount Ave., Warren, NJ 07060.

This is a book of 23 spirit masters for $4.49.

3. SHOW A FILM

a) Why People Eat What They Do (filmstrip & cassette, 108 frames, 35mm.), 1976, with teacher's guide. On loan from FNIERC, Accession No. 465-76.

The filmstrip explores the many things that affect eating habits and food choices for elementary students. Emphasis is given to availability and cost of food, hunger and fullness sensations, senses and appetite, advertising messages, past experiences affecting food and eating habits, food customs, and peer group influences. The term "eating habits" and "food choices" are defined. The subconscious learning taking place in the development of eating habits and food preferences is also explained.

b) Habits of Health: "Food to Live and Grow", BFA Educational Media, 2211 Michigan Ave., Santa Monica, CA 90404, Rental: $15.00, (16mm color movie, 13½ min.).

The film stresses the importance of a good diet. Shows an experiment with rats--one rat gets a balanced diet, and the diet of the other rat is lacking in fruit, vegetables and milk. Food waste and junk food consumption is also shown.

c) What's Good to Eat, California Dairy Council, (16mm movie, 18 min.), to order from: FNIERC, Accession No., 1843-78.

An animated movie with a pamphlet for vocabulary and discussion questions. How food selection can help to provide all nutrients for adequate nutrition.

d) Mulligan Stew: The Great Nutrition Turn On, U.S. Dept. of Agriculture, 1972 (16mm movie, 30 min.) or video cassette, Accession No. Movie - 323-73, on loan from FNIERC, Video/cassette 326-73.

The "Great Nutrition Turn On" is about the town of Lazy Susan where everyone has fallen asleep. The Mulligan Stew kids discover that the town of Lazy Susan has fallen asleep because they don't eat right. The Mulligan Stew kids are a group of five that make up a rock band, so they try to wake up the town with their music and food nutrition songs and it works. They tell the town that

the four important food groups are: fruits and vegetables, bread and cereals, meat, and milk. They also promote some of the nutrients gotten from certain foods.

e) Mulligan Stew: The Flim-Flam Man, U.S. Dept. of Agriculture, 1972, (16mm movie, 30 min. or video cassette).

The Flim-Flam Man is a very mod-looking fellow who tells the Mulligan Stew gang that they should buy his book on quick and fad diets. Mulligan gets help from Wilbur Doright to try to stop the Flim-Flam Man from selling his bad diets to kids. The Flim-Flam man goes down in defeat. This show teaches about health problems caused by fad diets and why the 4-4-3-2 way is the best way for good health.

f) Mulligan Stew: Count Down 4-4-3-2, U.S. Dept. of Agriculture, (16mm movie, 30 min., or video cassette), Accession No. to order from FNIERC, Movie 315-73, video cassette 316-73.

The Mulligan Stew's pal, Wilbur Doright, plans a camping trip, is trapped by a big rainstorm and flood waters, and does not have enough food to last until he can get safely home again. The Mulligans must put together a food package to be dropped to

dropped to Wilbur to last him for two weeks. They visit the space program headquarters to get help with kinds of food that will keep Wilbur in good health and give him a balanced diet with food from the four food groups. This must be food that will not spoil, as Wilbur does not have an icebox or refrigerator. The gang learns that most of the things they can send to Wilbur can be found right in their neighborhood supermarket or grocery. The Mulligan Stews learn how food can be changed during processing to have more nutrients, not spoil and take up less space. They also learn where new kinds of food will be grown to feed the world's people.

g) Mulligan Stew: Look Inside Yourself, U.S. Dept. of Agricultura, (16mm movie, 30 min. video cassette). Accession No. to order from FNLERC, Movie 319-73, video cassette 320-73.

The Mulligan Stew gang has another mission. In this show, the Mulligan Stew kids have to find out why Bobby and Alice are always "up-tight". They are cranky and tired all the time and are doing poorly in school. The Mulligan Stew gang finds out that Bobby and Alice have not been eating

breakfast and they explain why breakfast is important for good health. Cartoon figures show how our food is digested, and what parts of the body are used in digestion. This show repeats the four food groups and the 4-4-3-2 daily servings.

h) Eat For Health, Color No. 808 Movie, 11 min., Encyclopedia Britannica, Regional Manager: Suite 301, Greenshire Office Center, 30785 Grand River Ave., Farmington, MI 48024, Tel. (313) 477-4450, (rental 1-3 days - $12.00)

i) The Great Food Show, Kraft Foods, Modern Talking Picture Service, Inc., 2323 New Hyde Park Rd., New Hyde Park, NY 11040 (16 mm color movie, 15 min.). Free loan.

This film uses the Food Council of America's four food groups nutrition awareness symbol and brings it to life by a skit about each food group. Cartoon animation is very well done, interspersed with real-life sequences of children enjoying good health and good food. Familiar characters such as Red Riding Hood are used; Buffalo Bill becomes "Vegetable Bill" when he discovers there are "no more buffalo-burgers" at his favorite restaurant. Along with the

entertainment is a sound nutrition message about the importance of variety in food and the nutrients provided by the four food groups. There is no "product message". Recommended for elementary students.

4. MAKE A MOBILE

Have students write a menu using the food groups and then make mobiles to hand in the classroom or lunchroom. Use Handout #2-3.

Handout #2-1

Name _____

Grade _____

DIETARY RECALL

1. Pair-up students
2. One person will ask questions and record answers/ other person will be recalling foods they have eaten.
3. Switch off.

   Q. I am going to ask you to tell me everything you have put in your mouth and swallowed in the last 24 hours. This will include: all foods, drinks, candy, etc. We will start with breakfast and work backwards.

   Q. What did you have this morning when you got up?
   Record answer.

   Q. Did you have any snacks during the night?
   Record answer.

   Q. What did you have to eat before you went to bed last night? Any snacks while doing homework, watching T.V.? List all evening snacks.
   Record answer.

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Q. What did you have to eat last night for dinner or supper?
Record answer.

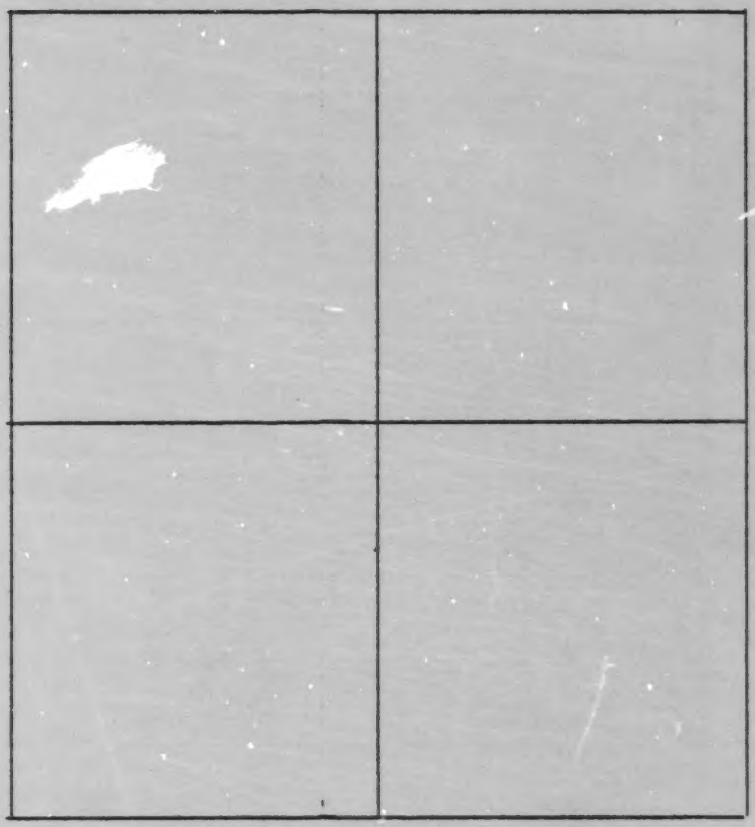
Q. Did you have any snacks after school (before dinner) yesterday?
Record answer.

Q. What did you have for lunch yesterday?
Record answer.

HANDOUT #2-2

WHAT'S MISSING?

Print the name of a different Basic 4 food group in each box. Next draw a picture of a food from that food group in each box.



Adapted from: Office of Public Instruction
Helena, Montana 59601

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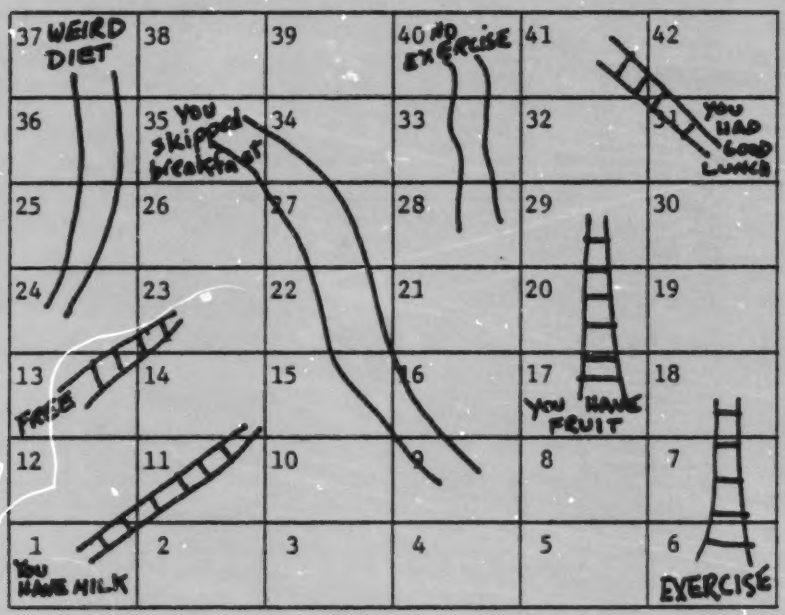
HANDOUT #2-3

NUTRITION CHUTES AND LADDERS

For two or more players. Each player uses a button or other small object as a marker. Shake a die, use a spinner or draw numbers one to six written on small slips of paper from a box to determine number of moves each turn. Go up the ladder as part of the move if the button is in a square the marker stops on. Go down the chute when the stop is in a square marker lands on. The last move can't be made until player gets the exact number needed to reach finish.



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Handout #2-4

MENU MOBILE

Join a team of your classmates. Your team is going to plan a menu for one day. Your menu must have three servings from the Milk Group, two servings from the Meat Group, four servings from the Fruit and Vegetable Group, and four servings from the Grain (Bread-Cereal) Group. Below, write your menu for each meal.

BREAKFAST	LUNCH	DINNER

You have made your food choices and put them in writing. Now show how balanced your menu is in another way. Make a Menu Mobile. A mobile is an art form used to show balance. Fill in the spaces below with the foods on your menu which below in each group.

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A BALANCED MENU FOR ONE DAY CONTAINS

MILK GROUP	MEAT GROUP	FRUIT AND VEGETABLE GROUP	GRAIN GROUP	OTHER FOODS

Lesson 3: SNACKS--FOR STUDENTS GRADES 4-6

A. Purpose of this lesson

1. The students will learn to analyze the nutritional contribution of various snack foods.
2. The students will understand that snacks can make an important contribution to the daily food intake.
3. The students will recognize their responsibility to choose snacks which make a nutritional contribution besides adding calories only.

B. Instructor preparation for lesson

1. Plan and prepare nutritious snacks to taste in class.
2. Order the handout: Snacking - A Matter of Management from the Cooperative Extension Service at MSU.
3. Order an audiovisual aid if desired.

C. Resource materials

1. Snacking - A Matter of Management, Extension Bulletin E-899, by Anita Dean, Cooperative Extension Service, Michigan State University, Ag. Hall 110, East Lansing, MI 48824.

D. Audiovisual Aids. See list on page 54.

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FSHN/81

ACTIVITIES

1. ANALYZE NUTRIENTS

Snacks are an important part of the daily food intake of this age group. Therefore, students need to learn that there are a great many snack choices which can make a great contribution to their daily nutrient intake.

a) Have students list snacks and write ideas on blackboard.

b) Analyze the nutrient contribution of these snacks in broad categories such as:

SNACKS	NUTRIENT CONTRIBUTION
Candy bars	fat, sugar, some protein, some vitamins and minerals, especially if enriched
Ice Cream	fat, sugar, can replace some milk products
Potato & other chips	fat, salt, starch very little vitamins and minerals unless enriched
Candies	sugar
Fruits - fruit juices fresh dried	add important vitamins and minerals, fruit sugar for calories
Soda Pops	sugar
Chocolates	fat, sugar

SNACKS	NUTRIENT CONTRIBUTION
Nuts & Seeds	protein, fat, vitamin and minerals
Vegetable snacks with or without a dip	add important vitamins and minerals. Dip can add needed calories and milk-based dips can add to milk group
Whole grain crackers, bread, popcorn, cereals (preferably unsweetened or low sugar)	important addition to bread and cereal group
Cookies	as above plus fat and sugar

The higher the snacks are in nutrients, other than fat, sugar and salt, the better is their contribution for the daily diet.

2. TASTE NUTRITIOUS SNACKS

Bring some nutritious snacks to class:

-cut-up vegetables and a lowfat dip

-berries or cut-up fruits with a dip

-dried fruits and nuts and seeds

-whole grain, unsweetened cereals with milk

-popcorn

-whole grain cookies

-fruit or vegetable juices

3. PLAN SNACKS

Have students plan snacks for:

a) a birthday party

b) a special celebration (holiday, sports event)

c) a week at home

d) to pack for school

4. SHOW A FILM

a) Junk Food Film: Exposing Those Bad Habits, (16mm movie, 11 min.) Sandler Institutional Films, Inc., 1976, includes study guide. On loan from FNIERC Accession No. 369-76.

A fanciful film presents the misadventures of Harold, a compulsive junk food eater. Roly-poly Harold ignores all that he sees and hears concerning the wise choice of nutritious and healthful foods. He spends his time cossing aside fruits, vegetables, and milk in favor of cookies, candies, soda pop, and other junk food. After being warned by his friends that his eating habits will get him into trouble, Harold visits Junk Food Land. There, bad-habit characters encourage him to embark upon an eating spree that leaves him hopelessly trapped. Harold's rescue by his friends exposes to elementary students the bad habits of all junk food eaters and gives them food for thought.

b) Mulligan Stew: The Racer that Lost his Edge, U.S. Dept. of Agriculture. 1972 (16mm movie, 30 min. or videocassette), on loan from FNIERC: Accession No. Movie 324-73, Videocassette 325-73.

A fat race car driver (who keeps losing) and his new bride (who keeps stuffing him with goodies) learn that you are what you eat and you have to plan right, buy right, and prepare right. The Mulligan Stews help the race car driver and his wife learn that it is more important to eat following a nutrition principle like 4-4-3-2 than just to fill up on goodies.

c) Eating Right With Harv and Marv, 1976, Alfred Higgins Production, Inc., (16mm, 10½ min. and study guide), on loan from FNIERC, Accession No. 33-76.

Two cartoon figures watch real boys and girls eating a picnic lunch with their teacher. She discusses the Four Food Groups with them, and the children evaluate their lunches to see if foods from all four groups are represented. One boy's chocolate bar sandwich (which he made himself) leads to a discussion of sweets and sugar's harmful effect on their teeth. The children are later shown making selections from a snack cart. They remember the teacher's discussion as they choose nutritious snacks of fruit, nuts, and fruit juice.

If peer influence affects the 5 to 8 year old, many youngsters may follow better snacking patterns after viewing the film.

d) The Snacking Mouse, 1977, From The Polished Apple, Filmstrip 41 frames + cassette, 5 min., on loan from FNIERC, Accession No. 337-77.

Children will love the antics of the everhungry snacking mouse. In a humorous way the mouse teaches children that bad snacking habits can have sad consequences--at least for a snack-a-holic mouse. Early primary grades.

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Handout #3-1

SNACKING

Extension Bulletin E-899 — Family Living Series

BY ANITA DEAN, Extension Specialist in Food Science and Human Nutrition

Snacking *is a major American pastime ★ We're eating more food between meals than ever before ★ The average person has 6 to 7 "food contacts" per day — 3 meals and 4 snacks ★ Food contacts can range from 10 to 12 per day for children, to 25 to 44 for heavy snackers!*

Snacking is not always harmful ★ It can be good for you, if you eat nutritious snacks and control the amount you eat ★ The trick is to plan meals and snacks with your total needs in mind ★ To get essential nutrients and minimum calories, you need a variety of foods from the BASIC 4 FOOD GROUPS (see chart on page 2).

STRATEGY

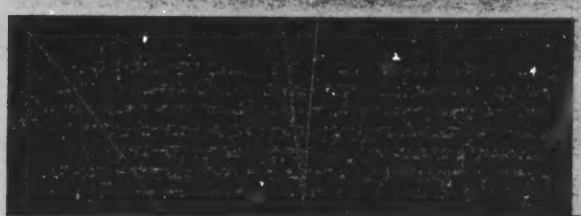
— Find out your daily nutrient and caloric needs.

— Know the nutrient content of basic foods and snack foods in relation to their calorie content. (See *Nutrient/Calorie Chart* on page 2).

— Adjust your daily "food contacts" to your needs and the nutrient-calorie values of foods.

At all age levels, snacks play a vital role in nutrition • Preschoolers need snacks to be sure they get adequate nutrients • Teenagers need snacks to ease their growing pains • Adults need snacks, but fewer, since their energy needs are declining.

With careful planning, you can make snack foods work for you to replace skipped meals • to control weight • to delay hunger • to replace omitted desserts • to supplement inadequate meals • to supply quick energy and • to quench thirst.



TACTICS

— Try three well-planned meals a day — maybe that's all you need.

— Cut out all between-meal "food contacts."

— Limit snacks to "free choice" foods (those with insignificant calories; see page 2).

— Postpone a salad, beverage, bread, or dessert to snack later.

— Adjust and limit portions (one cooky, not three; one apple, not two; a dozen potato chips, not half a bag).

— Snack on foods which supply nutrients often short in meals — vegetables, fruits, dairy foods — all are good sources of Vitamins A and C, calcium and riboflavin.

— Plan snacks and meals with total daily caloric intake in mind.

— Develop sales resistance and willpower.

— Include snack foods in regular meals to cut down on "special treats" between meals (potato chips with tuna salad and sliced tomatoes; a piece of candy as dessert).

— Promote nutritional labeling of snacks (already started with some foods).

— Ask restaurants and vending machine operators to add fruits, milk, cheese, enriched crackers.

— Increase your daily physical activity to use up any excess calories.

Cooperative Extension Service, Michigan State University

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Rate Your Snacks

List some of your favorite between-meal snacks and beverages.

Favorite Snacks	A	B	C	D	E	F

A Rank them 1 to 10: 1, most preferred; 10, least preferred.

B Place a dollar sign ($) when you pay $.50 or more for this snack.

C Show how much you usually eat at one time — cup, ounce, portion.

D Indicate how many times you had each one in the past week.

E Identify the food group or groups which include this snack. (See code with the Basic Four. (For example, Milk group (MG).)

F Identify foods high in nutrients with an "H"; those low in nutrients with an "L". (See example below).

What Changes, if any, Seem Desirable?

Score with the Basic Four

(MG) Milk Group
(VF) Vegetable, fruit
(MFP) Meat, fish, poultry, or alternatives: dry beans, peas, nuts, peanut butter
(EC) Enriched or whole grain bread, cereal
(OH) Other high calorie foods

For more about the nutrients in your favorite snack read nutritional labels.

Free Choice Foods
(Insignificant Calories — Unlimited Choice)

Raw Vegetables — cabbage, cauliflower, celery, cucumber, unsweetened pickles, lettuce, greens, mushrooms, green peppers, radishes, sauerkraut, summer squash, tomatoes, tomato juice, zucchini. (Try serving with a low-calorie cottage cheese or yogurt dip.)

Beverages — coffee, tea, clear broth (no fat), bouillion, soft drinks without sugar.

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Lesson 4: ADVERTISEMENTS - FOR STUDENTS GRADES 4-6

A. Purpose of this lesson

1. The students learn to identify the influence of advertising on food buying habits.
2. The students will be able to recognize deceptive advertising practices.

B. Instructor preparation for lesson

1. Collect magazine and newspaper ads for food products.
2. Make a list of current T.V. ads.
3. Duplicate handouts.
4. Order audiovisual aids if applicable.

C. Audiovisual aids. See list on page 62.

ACTIVITIES

1. DISCUSS ADVERTISING

A consumer is a person who buys, or uses a product, service or resource. Each of us is a consumer, some consume more than others but we all consume products, services or resources.

Advertising appeals to the consumers' needs and desires and also creates needs with new products. Needs and desires to which advertising appeals:

(1) Being part of a group
everybody eats...drinks x, and it makes them feel great

(2) Good health
feeling miserable before and great after using product

(3) Physical fitness
athletes advertising what they eat so that we use it to increase our fitness

(4) Other concepts may be less meaningful for this age group such as appealing to:
- Youth
- Independence and Individuality
- Success
- Attractiveness to opposite sex

Use Handout #4-1 to discuss these further.

2. DISCUSS FOOD ADS

a) View magazine and newspaper ads with the students. Discuss T.V. ads they have seen lately.

b) Discuss these ads:

(1) Who are people doing the advertising?
- sports personalities
- entertainers
- cartoon figures

(2) Are children used to sell the product?

(3) What does the ad claim?
- giving health, strength, growth
- natural food, health food

(4) Can these claims be supported by facts?

(5) What kind of foods are advertised?
- did you see ads for Michigan fruits and vegetables?
- grain products? besides sugar cereals?

(6) Are these foods health-promoting?

(7) Who pays for the ads?

3. MAKE ADS FOR SCHOOL MEALS

a) Have students make ads for the school lunch.

(1) with crayons/magic markers and paper to hand in cafeteria (a prize could be given to the best one)

(2) a radio ad to read over the PA system

(3) an ad for the school newspaper

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4. DISCUSS PURCHASES

Identify a recent food purchase and analyze the influence of advertising on the decision to purchase the item.

5. ROLE PLAY

Role play food advertising heard on television and radio.

6. MAKE A DISPLAY

Collect clippings of food advertising in local paper and arrange on a bulletin board.

7. DISCUSS ADVANTAGES

List some advantages and disadvantages of food advertising.

8. SHOW A FILM

a) Seeing Through Commercials, A children's guide to TV advertising. 1976, Vision Films (16mm movie, 15 min.), on loan from FNIERC, Accession No. 30-78.

Tricks of the trade in photographing product commercials are demonstrated for youngsters so they may more critically view TV advertising of toys and food products. The discussion clearly illustrates special camera effects and manipulative techniques used to make products appear more appealing and exciting.

Techniques used to make food commercials appeal to children are demonstrated using a

sample breakfast cereal commercial for "Sugar Fruit Giggles". While the critique of the commercial message incorrectly implies that cereals have little nutritional value aside from the milk served with them, the sensitization of a young audience to the advertising techniques used is splendidly done.

The final scenes show an original toy ad using the camera tricks and manipulations explained earlier. The film ends with "What tricks did you find?" Spirited post-film discussion should follow among elementary and junior high school viewers.

b) Soopergoop. 1975, Churchill Films (16mm movie, 13 min.), on loan from FNIERC, Accession No. 6-76.

One of the teaching objectives of this film is that children "will learn the principal tactices used by advertisers to persuade and manipulate them into buying products." Unfortunately in showing the development and marketing of a hypothetical presweetened cereal, "Supergoop," the film uses the same techniques of exaggeration and trick photography as many ads without clearly giving viewers information to help them make better

judgments as consumers. Cartoon and caricature are used extensively, but the profit-minded "food manufacturer" in the film seems overly distorted.

The film is recommended by the film producers for primary and elementary levels, but the use of sophisticated adult humor could be misunderstood by young children viewing the film and they might well come away wanting to buy "Soopergoop". The film might be suitable for older elementary children and for parent education to give an understanding of the advertising tactics used to "sell" food products to children watching TV. The effectiveness of this film would depend strongly on follow-up discussion and activities directed by the teacher as well as on preknowledge that high sugar intake is undesirable. The study guide does contain useful suggested supplemental activities.

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HANDOUT #4-1

APPEAL FROM FOOD ADS

HOW IS IT APPEALING?

Advertisements use different appeals to get people to buy a certain product. These appeals offer a reason for buying the product. Find examples of advertisements which use each of the appeals below. Write the name of the product by the appeal(s) it uses.

APPEAL		FOOD PRODUCT USING ADVERTISING APPEAL
HEALTH (Ad tells how product makes you feel healthier)		
LOVE and ADMIRATION (Ad tells how other people will like you if you use this product)		
FEAR (Ad warns of things that might happen if you do not use this product)		

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FSHN/81

EASE (Ad tells how or why the product is easy to use or prepare)		
ECONOMY (Ad tells how the product saves money)		
COMFORT and PLEASURE (Ad tells how the product is fun to use because of the way it looks, tastes, smells, sounds, or feels)		

Which advertising appeals to you most? Why?

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Lesson 5: VITAMINS AND MINERALS - FOR STUDENTS GRADES 4-6

A. Purpose of this lesson

1. The students will understand our bodies' need for vitamins and minerals.
2. The student will know some of the history of the discovery of vitamins.
3. The student will understand some of the functions of vitamins A and C, and minerals - calcium and iron.
4. The students will recall some good food sources for vitamins A and C, minerals - calcium and iron.

B. Instructor preparation for lesson

1. Order the booklet The Great Vitamin Mystery.
2. Order audiovisual aid.

C. Resource materials

1. How Did We Find Out About Vitamins? Isaac Simov, Walker & Co., 1974, 60pp. 5th grade reading level. $4.95 (hardcover).
2. The Great Vitamin Mystery. Historical tales of intrigue and adventure relate the discovery of five important vitamins. Roles of other key vitamins and nutrients are considered. Directions for food experiments

encourage students to become food detectives. 40pp., 70¢, Dairy Council of Michigan, 503 New Center Building, Detroit, MI 48202.

3. Yardstick for Nutrition. 1974. Order from Barbara Fry, Mailing Room, Bldg. 7, Research Park, Cornell University, Ithaca, NY 14853. Nutrient Card Packet, $12.50, Teaching Guide, 25¢. Yardstick is an educational packet in full color focusing on iron, calcium, Vitamin A and C - the nutrients frequently low in the U.S. diet. The 16-page Teccher's Guide explains the use of the packet and describes 10 youth or adult activities.

D. Audiovisual aids. See list on page 69.

ACTIVITIES

1. TELL A STORY

Tell students a story from "The Great Vitamin Mystery" to show them how difficult it was to find the reasons for the deficiency diseases and to cure them.

Our knowledge in nutrition is not very old and the science is still gaining new knowledge.

See the NUTRITION MANUAL in this series for information about vitamins and minerals.

2. SHOW A FILM

a) Vitamins From Food, (movie, 16mm, 18 min.) 1978, Dairy Council of California, on loan from FNIERC, Accession No. 1845-78.

This film dramatizes the stories of how Dr. Lind and Dr. Eijkman discovered their respective cures for scurvy and for beri-beri. The film reenacts Lind's experiments aboard a British man-of-war, and Eijkman's experiments in Java. The film goes on to explain and illustrate that growth and energy depend on the taking apart and putting together of molecules. It also explains how coenzymes derived from vitamins in the cells make the work of some enzymes possible, why vitamin pills can never

take the place of foods, and which foods are good sources for certain vitamins.

b) Meet What You Eat, Film Comm. Inc., 208 S. LaSalle St., Chicago, IL 60604, (16mm movie).

Animated characters and narrator teach importance of food selection, role of calcium, iron, Vitamin C and A and other nutrients. Historical food anecdotes included.

Use for upper elementary and Jr. High.

Lesson 6: CULTURAL FOODS FOR STUDENTS GRADES 4-6

A. Purpose of this lesson

1. Students will demonstrate knowledge and awareness of diverse cultural food patterns and eating habits.
2. Students will recognize the origin of some cultural foods served at home.
3. Students will show an increased willingness to try foods from other cultures.

B. Instructor preparation for lesson

1. Order audiovisual aid,
2. If possible, plan ethnic day in lunch program.

C. Resource materials

1. Arrow Book of the United Nations, L. Dobler, Scholastic Books.
2. Many Hands Cooking, United Nations, New York, NY.

D. Audiovisual aids

1. Mulligan Stew: Getting It All Together, 1972, 30 min. U.S. Dept. of Agriculture, Office of Communication. FNIERC Accession No. movie:

317-73, videocassette: 318-73.

The Mulligan Stew gang must prepare a meal for kids from all over the world. As they collect all the food, they recognize that the essential nutrients of protein, carbohydrates, fat, vitamins and minerals are available in foods from all over the world, like pizza from Italy, sukiyaki from Japan, smorgasbord from Sweden, beef stroganoff from Russia and sauerbraten from Germany. Then hundreds of kids from all over the world arrive in their native costumes and eat their own favorite dishes and try some special foods from other countries.

2. Food Around the World, BFA Educational Media, 2211 Michigan Ave., P.O. Box 1795, Santa Monica, CA 90406 (16mm movie, 14 min.)

Stresses the fact that different cultures eat different foods to nourish themselves. Different climates as a factor in the development of different foods. Shows how different cultures in the U.S. have contributed to the variety in foods.

An interesting film which makes the viewers realize the diverse eating habits around the world.

80

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FSHN/81

3. The Big Dinner Table, (16mm super 8 or videocassette with guide), Rental $16.50 from Perennial Education Inc., P.O. Box 855, Highland Park, IL 60035 or from FNIERC, Accession No. 1842-78.

A multi-cultural approach to learning about nutrition and the diversity of diets around the world is featured. The concepts of energy, the roles of vitamins in the body, and the Four Food Groups Guide is introduced.

ACTIVITIES

1. DISCUSS FOODS PEOPLE EAT

   a) People in various countries eat unique foods because certain foods are grown or raised (their locality, dependent upon soils, climates and latitudes).

   b) Historical developments such as wars, famines, disease, inventions, forms of transportation, depressions, periods of inflation and social mingling contribute to diverse food patterns and eating habits.

   c) No matter where a person lives he can still eat an adequate diet which can be evaluated by using the four food groups. Although certain foods are only found in specific parts of the world, they can still be classified into the "Basic Four" food groups.

   d) Foods of many nations and areas of the world have been incorporated into our diet such as hot dogs from Germany, pineapple from Hawaii, pasta from Italy, sandwich from England and shishkebob from the Middle East.

   e) In countries where food supplies are limited, people depend mainly on staple crops: wheat, corn, rice, cassava, yams and other root crops. The methods of preparation used in these countries also depends upon the natural resource.

f) In Mexico many main dishes are served wrapped in a fried grain product, known as tortilla. Two examples of these foods are tacos (tortilla, meat, lettuce, tomato and cheese) and enchiladas (tortilla, chilipeppers, meat or beans and perhaps cheese).

g) Italian dishes are often based on pasta, such as spaghetti (wheat flour pasta with a sauce of butter, fish, tomato, cheese or meat) and lasagna (wide noodles pasta layers filled with meats, cheese and tomato sauce).

h) Oriental foods tend to be vegetable combinations which use smaller amounts of protein foods. Examples are such dishes as Chow Mein (Chinese vegetables and meat served with rice), Egg Food Yung (Chinese pancakes of vegetables and eggs; shrimp may be added), Chop Suey (Chinese vegetables and meat served with rice).

i) Notice that preparation of tortillas and rice does not require sophisticated equipment or a great deal of fuel. Preparation of bread requires an oven and a fairly long cooking time. Because of limited resources, many people in the world exist almost entirely on vegetables for their main source of calories and protein. Some groups of vegetarians include eggs and milk products in addition to grains, fruits, nuts and vegetables.

j) The United States is a highly developed industrial society in which agriculture is pursued by only a small percentage of the population. Most of the people live in urban areas. Our life style is one of work and leisure activities.

k) Convenience foods are used widely by many American families. These are foods which are pre-prepared, i.e. TV dinners, frozen vegetables, potato chips, ice cream, luncheon meats and ready-to-eat cereals.

l) The consumer pays for these services: the cost is included in the total price of the food. Many homemakers feel that the time and energy savings is more important than the cost of the product. Convenience foods often occur as casseroles or combination dishes. One dish may provide a contribution to more than one food group. In a serving of a frozen dinner of macaroni and cheese, there may or may not be enough cheese to count this as a serving from the milk group. Utilizing the nutrient labels on the package is an important area to the consumer who frequently uses convenience products.

adapted from: Novi Community Schools
Nutrition Education Scope and Sequence
"Working Model", vol. III

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2. DISCUSS AGRICULTURE

   a) How do various soils, climates and latitudes affect the types of foods that are available in different parts of the world? Give examples of countries and/or cultures.

   b) Name the foods that are grown or raised in one of these countries and/or cultures.

   c) What percentage of the U.S. population is engaged in agriculture as a full time occupation?

3. DISCUSS MEALS

   a) Give an example of a typical meal for a certain country. Identify the key nutrients of each food. Determine if this meal is well-balanced.

   b) Think of foods eaten in the U.S. that originated in other countries.

   c) What countries serves food in fried grain shells filled with meat, lettuce, tomato, and other items?

   d) Which country uses pastas? (from wheat grain)

   e) Which countries use mainly rice with lightly fried vegetables and small portions of meat, fish and poultry?

4. DISCUSS COOKING EQUIPMENT

   a) How does the availability of sophisticated cooking equipment and fuels affect the way food is prepared?

b) Name local restaurants that serve ethnic foods.

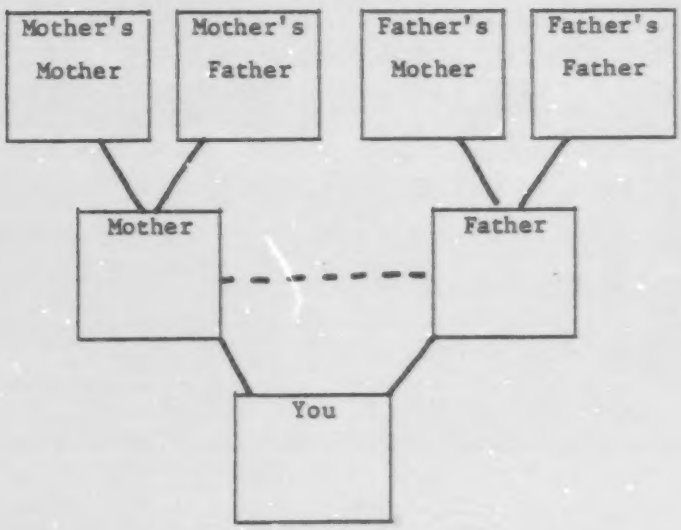
5. DISCUSS CONVENIENCE FOODS

a) Name some convenience foods.

b) Who pays for convenience foods?

6. CREATE FAMILY FOOD TREES

a) Plan to have each student create a family tree.



b) For each culture mentioned have a name of a food.

c) Have students include a recipe for the food.

d) Using this theme, create a bulletin board. Include an illustration of the country.

7. TASTE

a) Prepare an ethnic food tasting.

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b) Try to have parents demonstrate.

c) Plan an ethnic week with the manager of the school lunch program. Have students assist in the preparation.

LEVEL III

Grades 7-9
as well as grades 10-12

At this level nutrition is generally taught by Home Economics teachers. However, Physical Education teachers and Science teachers can influence nutrition knowledge. The influence of school foodservice personnel is to be confined to the lunchroom. However, the possibilities for nutrition education in the lunchroom should not be underestimated. Many lunchroom ideas are mentioned in Lesson I. These students have many special concerns. Many active, growing students can barely eat enough to satisfy their need for energy, while others have to be watching the amount of calories they eat.

POSTERS

Posters and labels of caloric values of specific foods on the trayline can help students make wise decisions. Salad bars can be a very useful tool for nutrition education if some nutritional information on the foods such as calories and the predominant nutritional contribution to the diet are given color-codes.

For example, using color-code of the National Dairy Council Comparison Cards*

Calories - Gray	Riboflavin - Blue
Protein - Red	Niacin - Rust
Vit. A - Yellow	Calcium - Green
Vit. C - Black	Iron - --
Thiamin - Brown	

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*To order: National Dairy Council, 7300 North River Road, Rosemont, IL 60018. Comparison Cards - $6.00, Food Models - $7.00

The comparison cards could be used for displays. The Food Models which are beautiful color pictures of life-sized food models are also very useful, as the back of the model has food values and their contribution to the U.S. RDA.

Giving the students a weekly selection of graphically well-presented nutrition information can be a useful tool in their nutrition education. An enterprising foodservice manager could even take the information off on Friday and give a little quiz on the line and reward the winner (chosen by lot from all the right answers) a lunch or nutrition treat.

Comparison tables of fast food service meals and school lunch may also provide nutrition education, and be useful to the students. Free or inexpensive posters and other materials can be requested from a variety of organizations.

Arts and Craft Classes could also be tapped for a poster contest for the lunchroom. Or the whole student body could be asked to participate in a poster contest advertising the lunch program, the Daily Food Guide, a nourishing breakfast or a special event in the lunch room.

SPECIAL MEALS

Special meals for holidays, language classes or ethnic festivals can also make school lunch more exciting and increase participation and provide nutrition education.

Let the authors of this manual know any good nutrition education ideas which worked in your school. They will then be included in an eventual revision of this manual.

SALAD BARS

Excerpted from: "Salad Bars: Yesterday, Today, and Tomorrow", School Foodservice Journal, September, 1980.

Yesterday

Nutrition, exercise, dieting were the three hottest words by the end of the 1970s. The maturing "me" generation (postwar baby boom adults) was turning its attention from material acquisition to the attainment of healthier, more attractive bodies. The McGovern Report, issued in 1977, advocated an American diet higher in complex carbohydrates, fruits, and vegetables, and lower in animal protein and saturated fats. This nutrition landmark served as a focus for all Americans seeking a healthier diet.

In the wake of this dietary revolution, salads gained new prominence. A recent Gallup Poll revealed that 29 percent more salads were being served in restaurants. Gone were the days of the modest side salad. Salads became both luncheon and dinner entrees as food service operators began to perceive the merchandising value of opulent, colorful salads in appealing to health conscious customers.

The changing American economic climate also had an impact on developing saldads during the 1970s. Inflation and the increasing cost of fuel created more consumer awareness of cost-value relationships. This awareness was particularly true in the area of dining away from home. Restaurants of all types sought ways to differentiate their product while offering good value for the dollar. This need was met through the concept of self-service.

Self-service had appeal for both customers and food service operators. For customers, it fulfilled the need to choose exactly the types of foods they wanted. Choosing the right thing for one's self is a key identifier of the "me" generation. Self-

service also appealed to children, who can be notoriously selective when it comes to food choices. In a self-service setup, young customers could select precisely what they wanted to eat.

For food service operators, self-service often freed up staff time. In addition, the novelty of the self-service concept acted as a traffic builder that could easily be adjusted to meet chaging customer needs.

Today, when we think of salad bars we think of self-service, but early self-service concepts included appetizer bars and dessert bars. Many of these fell by the wayside in favor of salad bars, which met both nutritional concerns and the desire for choice. It is interesting to note, however, that today, salad bar equipment is being merchandised for use at breakfast and, once again, for dessert displays.

Schools and Salad Bars

A favorite media topic during the 1970s was the school lunch program and its efforts to meet the nutritional needs of the students. Although there has been much criticism in the past, it usually was unwarranted and uninformed. These events, though, pointed to the public's changing view toward institutional feeding. If children could get an inexpensive meal that they liked at a fast food restaurant, why couldn't schools provide the same? Never before had the comparison between commercial food service and school food service been so clearly defined.

Schools faced mounting pressure from parents and students to provide meals that were closer to restaurant type meals. The situation was one that could not be dismissed. Fast food restaurant were luring students off campus during lunch. School lunch participation was declining, particularly in

urban areas. Parents were demanding better prepared food and taxpayers across the country were alarmed at what seemed to be rising plate waste, which they translated into dollars wasted.

The obvious answer to this problem was to offer students what they seemed to want--a fast food lunch. This chain of events led to "The Combo." The Combo was generally a hamburger, hot dog, or sandwich; french fries; and a thick shake. While fresh fruits and salads were generally offered as well, waste on these items, particularly the small, pre-mixed, unattractive side salad, was high. Also, the Combo lunch drew fire from nutritionists who felt that it was too high in carbohydrates and fats, and too low in vegetables and fruit.

Many school foodservice directors agreed, but were at a loss for programs that would satisfy their demanding customers. That's when salad bars hit the scene.

Today

School salad bar programs are now operating successfully across the entire country. The Institutions Menu Census of 1980 reports that 38.6 percent of all schools surveyed have salad bars. This figure represents a 68 percent increase since 1977. Here's a glimpse at what's been taking place in the nation.

Massachusetts

In the Massachusetts area School Lunch Director Thomas Curran, Weymouth South High School, promoted a salad bar program in increase school lunch participation. Participation has grown from 67 percent before salad bar implementation to 83 percent. Salad bars are planned for all elementary schools in the

area and should be in every school by June of 1981.

Florida

In Tallahassee, Fla., a salad bar pilot program was set up in the spring of 1979 in two elementary and three high schools. Again, the goal was to increase student participation and decrease plate waste. In just one month, participation was up as much as 17 percent, with little or no plate waste.

California

In Santa Cruz, Calif., Food Service Director Thelma Dalman has increased lunch participation by 200 percent since introducing salad bars in the junior and senior high schools. Dalman also has converted the Santa Cruz lunch program to an additive-free diet as recommended by Dr. Benjamin Feingold. In addition, she removed 95 percent of the refined sugar used in the program, cut back on use of salt and saturated fats, and has replaced animal protein with vegetable protein whenever possible.

There are two major reasons for school salad bar success. One reason is that salad bars give students the option to choose, the other is that students can be involved in the program's decision making.

Most school food service directors believe that children make wise decisions. The greater the level of responsibility given to students, the greater their ability to make decisions and respond in a creative way. Plate waste studies indicate that when students are given the opportunity to select foods, plate waste decreased.

It is also very important to give students input into the system. Food Service Director Shirley

Watkinds of the Memphis (Tenn.) Public School System, has implemented a successful salad bar program in her high schools. The program began as a result of a Youth Advisory Council (YAC) suggestion. Open lines of communication between YACs, menu planning committees, principals, students, parents, and food service personnel contribute to the Memphis lunch program's smooth development. Watkins believes that "we increase participation as a result of letting people tell you what they want and then following through."

Salad Bars Make Great Nutrition Education Tools

As the 1980s begin, we are seeing a greater emphasis on nutrition education programs. The first national effort in support of nutrition education was in 1978 with the passage of legislation funding the Nutrition Education and Training (NET) Program. Participation among government administrators, dietitians, and educators has resulted in the expansion of nutrition education in America. But a great deal still remains to be done.

Salad bars have been an excellent tool for educating children about vegetables and fruits. By creating an awareness among students and by adding new items on the salad bar, new foods become familiar. In Tallahassee, Fla., a 10-minute daily nutrition discussion prior to lunch is helpful in preparing students for the many choices they encounter at lunchtime, particularly salad bar choices.

Setting Up Salad Bar Programs

Careful planning and coordination by food service directors is an important element in developing salad bar programs. Most food service directors report that it is not difficult to set up equipment and

train staff for a salad bar program. Although some operations become more involved than others, the end result is a student served salad area.

Purchasing new equipment is not always necessary. Shirley Watkins (Memphis, Tenn.) had salad bars constructed from steam tables that were not being used. In a Minnesota high school, bowls are simply set into metal pans filled with ice. The pans are then placed on tables and students form a line on one side of the table and help themselves.

Food service cafeteria personnel have reported that adapting a salad bar to their programs has been relatively easy. And most school programs have not found it necessary to hire additional staff. Once the staff perceives the level of student excitement, which is almost immediate, they are happy to take part in preparing the salad bar.

Tomorrow

The concern over health and nutrition is expected to continue during the 1980s. Incorporating nutritional awareness into school programs will become an important method of helping students develop good eating habits. In addition, food costs also will continue to increase as inflation sweeps across the country.

Based on these elements, salad bar programs will become a necessary component in maintaining good school lunch participation. By 1985 there is a good chance that 50 percent of all schools in the nation will have salad bar programs. As more and more high schools implement salad bars and the concept is perfected, we will begin to see elementary school salad bars increasing in number. And, as school food service directors learn more about salad bars, they will begin to understand the needs of their customers that much more.

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Soup + Sandwich + Salad = Self-service Nutrition

As more and more emphasis is placed on children as responsible and wise decision makers, the trend in student served foods will increase. Schools will expand their programs into the up and coming popular soup, sandwich, and salad bars.

Increased participation in school breakfast programs will expand the use of salad bar equipment. Buffet style cereals, fruits, and juices will become self-service items.

Student involvement will increase with respect to salad bars. Nutrition education programs will become more complex. An expansion of this concept might include teaching children to grow their own vegetables. With a program such as this one, students can learn to identify the parts of plants eaten. A similar concept was discussed in New York as part of the Energy Factory project.

Creative food service personnel may choose to involve students in food preparation. Students can prepare the dressing or slice vegetables. This project will teach them to become involved in food preparation techniques at home as well as contributing to their roles as responsible people. In Bridgewater, Mass., School Lunch Director Kenneth Gebo already has students participating in lunch preparation activities at the junior high school level.

Salad bars can be used to promote weight control and excercise programs. First hand experience with a salad bar can educate children about low calorie foods and different elements of the basic four food groups. By educating children at a young age they can incorporate these foods into their regular diets; perhaps inspiring them to request healthy, low calorie foods at home.

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Preparing students to become healthy human beings should be a major goal of the food service industry. And salad bars can be effective tools in promoting this new awareness!

GLOSSARY OF OFTEN MISUNDERSTOOD TERMS

ADEQUATE NUTRITION: A term used in relation to diet. This is one that provides all the essential nutrients in sufficient quantities to meet the needs of the body. (see NUTRITIONAL ADEQUACY)

APPETITE: Taste preference; the desire to eat particular foods. Appetite is not necessarily related to hunger.

APPROPRIATE DIET: A subjective term often used in relation to diet. A "well-balanced" diet is one that is considered adequate to maintain health, in that it provides a full spectrum of nutrients through a widely varied diet. (see GOOD EATING HABITS, HEALTH-PROMOTING, WELL-BALANCED)

CALORIC NEEDS: Engergy requirements of the body to maintain health and well-being.

CALORIE: (Food Energy Measurement) A standard unit used to measure energy. It is defined as the quantity of heat required to raise the temperature of 1 kilogram of water 1 degree centigrade. A calorie is not a nutrient, it is a unit of measure. Carbohydrates, fats and protein are the body's sources of calories.

DIET: TO DIET: To consume a specific food intake. This is often associated with decreased food consumption for weight loss. A DIET: A defined mode of eating. Foods to be consumed are specified as for diabetes, weight control, hypertension, etc. DIET: Total food consumption of an individual.

DIETARY HABITS: Individual patterns of food consumption. These are influenced by economic, social, psychological, availability factors, etc. (see FOOD CONSUMPTION PATTERNS, FOOD SELECTION PATTERNS)

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"EMPTY" CALORIE FOODS: Foods that contain mostly calories and no other nutrients. Commonly recognized empty calorie foods: soda pop, hard candy, potato chips.

ENRICHMENT: Replacement of nutrients that have been removed from a food. All nutrients used in "enrichment" must be naturally occurring in that food. Other nutrients, when added, are part of FORTIFICATION practices.

ESSENTIAL NUTRIENTS: Nutrients that must be provided to an organism by food. They cannot be synthesized by the body at a rate sufficient to meet its needs. Nutrients essential to one species may not be essential for another.

EXCESSIVE NUTRIENT INTAKE: Intake of nutrients beyond the requirements of the body. Great excesses can lead to unhealthy conditions such as obesity, hyper-vitaminosis, fluorosis.

"FATTENING" FOODS: These foods are best defined as any foods eaten in excess or in excess of body needs. Eating too much of almost any food will eventually make it a "fattening" food. How much is eaten? How often is it eaten? How many calories does the amount eaten contain? are important questions to ask. Generally foods high in fat and/or carbohydrates are considered most often to be "fattening" foods. (see EMPTY CALORIE FOODS)

FOOD COMPOSITION: The chemical and physical make-up of foods.

FOOD CONSUMPTION PATTERNS: Individual patterns of food consumption. These are influenced by economic, social, psychological, availability factors, etc. (see DIETARY HABITS, FOOD SELECTION PATTERNS)

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FOOD HANDLING: Everything that happens to a food while it is being grown, processed, stored and prepared for eating.

FOOD INTAKE: Ingestion of any food or beverage. All snacks and meals are included when food intake is considered.

FOOD SELECTION PATTERNS: Individual patterns of food consumption. These are influenced by economic, social, psychological, availability factors, etc. (see DIETARY HABITS, FOOD CONSUMPTION PATTERNS)

FORTIFICATION: The addition of nutrients not naturally found in that food. As the addition of Vitamins A & D to milk. Milk is not a natural source of Vitamins A & D. Naturally occurring nutrients, when replaced in a food, are part of ENRICHMENT practices.

"GOOD" EATING HABITS: A subjective term often used in relation to diet. A "well-balanced" diet is one that is considered adequate to maintain health, in that it provides a full spectrum of nutrients through a widely varied diet. (see APPROPRIATE DIET, HEALTH-PROMOTING, WELL-BALANCED)

"GOOD FOR YOU": Is a relative term. Is it meant to be good for your teeth? good for your skin? good for pregnancy? good for infants? Good has to be defined in order to determine if a particular food and/or diet is "good". (see APPROPRIATE DIET, "GOOD" EATING HABITS, HEALTH-PROMOTING, WELL-BALANCED)

"HEALTH" FOODS: A misleading food term. There are very few "unhealthy" foods. Health is achieved in many ways; eating a variety of foods that provide all the essential nutrients is a prime element. No one food can provide all the nutrients. There are stores which sell what is termed "health" foods which usually include a variety of items. These items are usually foods or parts of plants that are rich sources of a particular mineral or vitamin. (see ORGANIC FOODS)

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FSHN/81

HEALTH-PROMOTING: A subjective term often used in relation to diet. A "health-promoting" diet is one that promotes well-being and is considered adequate to maintain health. It provides a full spectrum of nutrients through a widely varied diet. (see WELL-BALANCED)

HUNGER: A craving or urgent need for food or a specific nutrient. A weakened condition brought about by prolonged lack of food.

INGREDIENT STATEMENT: A complete listing of ingredients listed on food packages. All ingredients must appear in the order of concentration in the product. The ingredient in the largest amount is listed first. All other ingredients appear in descending order of concentration. Reference: NUTRITION LABELING: HOW IT CAN WORK FOR YOU by National Nutrition Consortium.

INVENTED or ENGINEERED FOODS: Foods that contain only part of a natural food or parts of several natural foods. (i.e., candy, soft drinks, vegetable protein analogs, etc.)

MALNUTRITION: An inclusive term that involves the lack, imbalance or excess of one or more of some forty or so nutrients that are required by the body. The terms undernutrition, overnutrition, excess and deficiency are included in malnutrition. (see POOR NUTRITION)

METABOLISM: The entire process including physical and chemical changes occurring within an organism. This includes the synthesis or building of biologic materials and the breakdown of nutrients to yield energy and maintain life.

MDR: (see MINIMUM DAILY REQUIREMENTS)

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MINIMUM DAILY REQUIREMENTS: The MDR or Minimum Daily Requirement is an outmoded method used for nutrition labeling. It quite often proves more confusing than beneficial. It is defined as "the amount of a vitamin or mineral needed to prevent symptoms of deficiency and to provide a small margin of safety". This has been replaced by U.S. RDA labeling. (see RDA)

NEEDS (NUTRIENTS): Requirements of the body for maintenance of health. Needs are often amounts required to keep the body from illness. Needs are defined as less than recommendations. (see RECOMMENDATIONS/ NUTRIENTS)

NUTRIENT: Any substance that provides or furnishes nourishment (fats, carbohydrate, protein, vitamins, minerals, water).

NUTRIENT DENSITY: The concentration of nutrients in a particular food. Measurement of nutrient density is a means of determining the nutritional value of a particular food.

NUTRIENT RESERVES: Stored or accumulated nutrients within the body. These stores, when depleted can lead to impairment in body health and maintenance. Many nutrients can only be stored in small quantities, therefore, they must constantly be replenished with an adequate diet.

NUTRITION LABELING: A nutrition information panel provided by food companies for consumers. This information is regulated by the Federal Government. The first and most basic of the federal guidelines requires that all or none of the required information must appear on food packages. Information required on properly written labels: 1) serving size, 2) servings per container, 3) calories per serving, 4) protein (grams per serving), 5) carbohydrate (grams per serving), 6) fat (grams per serving), 7) Vitamin A, 8) Vitamin C, 9) Thiamine, 10) Riboflavin, 11) Niacin, 12) Calcium, 13) Iron,

14) ingredient statement on select products. Optional information: 1) breakdown of fats listings by saturated and polyunsaturated, 2) Cholesterol content per serving and per 100 grams food, 3) sodium content per serving and per 100 grams food, 4) Vitamin D, 5) Vitamin E, 6) Vitamin B-6, 7) Folacin, 8) Vitamin B-12, 9) Iodine, 10) Magnesium, 11) Zinc, 12) Copper, 13) Biotin, 14) Phosphorus, 15) Pantothenic Acid. Reference: NUTRITION LABELING: HOW IT CAN WORK FOR YOU by the National Nutrition Consortium

NUTRITIONAL ADEQUACY: A term used in relation to diet. This is one that provides all the essential nutrients in sufficient quantities to meet the needs of the body. (see ADEQUATE NUTRITION)

NUTRITIONAL INJURY: Illness caused by acute malnutrition; either under or overnutrition. Nutritional injury can be either permanent or temporary.

NUTRITIONAL STATUS: The well-being of an individual as it relates to nutrient reserves and nutrient intake.

"ORGANIC" FOODS: In a scientific sense, all food from animal and vegetable sources is "organic", because it is derived from a living organism. This term is commonly applied to foods produced without the use of pesticides; from soil which has been treated only with animal manure and composted materials. Soil improvement can increase the yield and size of crops, but not the composition of the plant. (see HEALTH FOODS)

POOR NUTRITION: An inclusive term that involves the lack, imbalance or excess of one or more of some forty nutrients that are required by the body. The terms undernutrition, overnutrition, excess and deficiency are included in poor nutrition. (see MALNUTRITION)

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PROCESSED FOODS: Foods that are changed from their natural or original form. Color, texture, nutritive value and/or flavor may be altered. Processing methods include smoking, salting, drying, blanching, canning, freezing, freeze-drying, refrigerating, dehydrating, fermenting, etc.

RDA: The basis for the percentage listings on the bottom portion of nutrition labeling panels. RDA stands for Recommended Dietary Allowances. These were established by the Food and Nutrition Board of the National Research Council of the National Academy of Sciences. It is a "formulation of nutrient allowances for daily consumption ... adequate for the maintenance of good nutrition in essentially all the population in the United States". More simply stated, the RDA sets level of nutrients recommended as desirable goals for nutrition for all normal, healthy people. In order to be accurate, though, these levels of required nutrients have to be set by age and sex of individuals. Since the exact use of this on food panels for nutrition labeling would lead to a booklet attached to every package or can... a more workable standard was instituted by the Food and Drug Administration for use by manufacturers. These standards are based on a simplified version of the RDA's. What is seen on nutrition labeling panels are the U.S. RDA's. Reference: NUTRITION LABELING: HOW IT CAN WORK FOR YOU by the National Nutrition Consortium.

RECOMMENDED DIETARY ALLOWANCES: (see RDA)

RECOMMENDATIONS (NUTRIENTS): Suggested intake of nutrients for probable maintenance of health. These standards are well beyond body needs or requirements.

SANITARY FOOD HANDLING/PREPARATION: Clean, filth-free or disease-free growth, processing, storage, transportation and/or preparation of foods.

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SCIENTIFICALLY VALIDATED (INFORMATION/FACTS): Facts or information that are backed by scientific research; not founded on fad, invalid, or uncontrolled research.

UNITED STATES RECOMMENDED DAILY ALLOWANCES: (see U.S. RDA)

U.S. RDA: Should be considered as the packaging and consumer guidelines for nutrition labeling. U.S. RDA's or United States Recommended Daily Allowances are taken from the RDA's. The highest listed values are taken from the RDA's and are considered to be labeling standards. In most cases, this amount is that required by an adult male. BUT...there are variations in the U.S. RDA's, too... Most foods/ nutrients are labeled as % U.S. RDA....and it can be assumed that this is for the majority of the population except in the following cases: Special U.S. RDA's are established for 1) Infants, under 12 months old. These U.S. RDA's are listed on baby foods only. 2) Toddlers (1 to 4 years old). Listings appear on Junior Foods only. 3) Pregnant and lactating women's products are listed differently than products for other adults. These three listings are separate from others, because nutrient requirements during those three periods of life are quite different from other periods in the life cycle. Reference: NUTRITION LABELING: HOW IT CAN WORK FOR YOU by the National Nutrition Consortium.

WELL-BALANCED: A subjective term often used in relation to diet. A "well-balanced" diet is one that is considered adequate to maintain health in that it provides a full spectrum of nutrients through a widely varied diet. (see HEALTH-PROMOTING)

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